

Abstract of the Disclosure

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5 An apparatus for filling and cleaning channels
and inlet ports of a microchip substrate is disclosed. A
device of the apparatus comprising an array of tubes is
inserted into each of the inlet ports of the microchip.
The array of tubes of the device comprises a plurality of
pressure tubes, surrounded by a plurality of vacuum
tubes. In conjunction with this, pressurized solutions
10 such as matrix or wash are introduced into common
openings on the microchip that provide a passage to
microchannels of the microchip with the use of pressure
tip injectors of the apparatus. As matrix or wash
solutions are pumped through the common openings and
15 microchannels of the microchip substrate, wash solutions
are pumped through the plurality of pressure tubes and
everything is vacuumed through the plurality of vacuum
tubes surrounding the plurality of pressure tubes.
Various reservoirs of solutions are selected and allowed
20 to flow by proper valve actuation. This process can be
performed manually or easily automated by utilizing
appropriate valves and control hardware/software.